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10/532,275	09/28/2005	Mark Christopher Hope	M02B156	8421
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Edwards Vacuum, Inc. 2041 MISSION COLLEGE BOULEVARD SUITE 260 SANTA CLARA, CA 95054			BOBISH, CHRISTOPHER S	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/532,275  
Filing Date: September 28, 2005  
Appellant(s): HOPE, MARK CHRISTOPHER

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Ting-Mao Chao  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 04/05/2010 appealing from the Office action mailed 07/16/2009.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,961,291	Sakagami et al	10-1999
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**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakagami et al (US Patent No. 5,961,291).

Sakagami teaches:

limitations from claim 6, a method of reducing the incidence of restart failure in a dry pump comprising, monitoring the temperature of a dry pumping mechanism after cessation of the pump, **C. 3 Lines 62-65 and C. 4 Lines 14-18, examiner notes that to keep within a temperature range as suggested, the temperature must be monitored**, and initiating operation of the pumping mechanism for a fixed time period so as to purge a proportion of contaminate particulate matter present until a predefined temperature is reached or a predefined time limit has passed, **C. 4 Lines 19-38**;

limitations from claim 16, wherein the method is stopped when the first of a predetermined temperature or a predetermined time limit has been reached, **C. 4 Lines 31-38, the method is performed before the start of the pump, and stopped once starting period is finished**; furthermore, C. 4 Lines 44-54 teach that a predetermined temperature can be reached prior to startup, at which point the method is ceased;

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakagami et al (US Patent No. 5,961,291).

Regarding claim 7:

Sakagami discloses and teaches of the method of claim 6, including a pre-selected temperature interval within which the method is performed.

Sakagami does not explicitly teach performing step c) at regular drops in the monitored temperature of the pumping mechanism.

**However, it would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to perform step c) at appropriate temperature intervals in order to provide the most complete removal of contaminate, including intervals occurring as the heated pump cooled.**

Regarding the limitations of claims 8-14:

**It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to choose, as a matter of design choice, the**

**appropriate time or temperature intervals needed to achieve a clean pump that is capable of being restarted.**

**(10) Response to Argument**

Appellant's claim 6 calls for a method of reducing restart failure in dry pumps. The steps of the method includes detecting when a pump has stopped operating, monitoring the temperature of the pump after said pump has stopped operating, starting the pump when a predetermined temperature has been reached, and continuing operation of the pump to purge contaminates from the pump until a certain period of time has elapsed or a certain temperature has been reached. Sakagami teaches a method for sublimating and clearing contaminates (aluminum chloride) from the inner surfaces of a vacuum pump. The method utilizes a cycle of heat and starting/stopping a pump in order to loosen contaminates built up around the pump rotor to reduce starting times (see C. 3 Line 61 through C. 4 Line 59).

In regards to the appellant's arguments under the heading **A: 1** regarding the order of steps (stopping of the pump, monitoring of temperature), the examiner respectfully disagrees. Appellant cites FIG. 22 of Sakagami as evidence that heat is applied only after the pump has been started, specifically pointing to steps 41 and 42. However, it is believed that this is an incorrect interpretation of FIG. 22. The un-numbered step labeled "operation start" does not correspond to the start of the pump;

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rather it signifies the start of the heating/pumping cycle. The flow chart in FIG. 22 does indeed show a heating and monitoring step (S41-S42); though the start of the pump itself does not appear to occur until step S45, after the heating of the stator to a predetermined temperature. Thus the flow chart of FIG. 22 appears to show a monitoring of a pump temperature when the pump is stopped and before the pump is started. C. 11 Lines 17-34 of Sakagami support this interpretation, specifically lines 29-31 which recite “*By thus heating the stator before the start*, the solid aluminum chloride can be sublimated to reduce the frictional resistance at the restart of the pump.”.

In regards to the appellant's arguments under the heading **A: 2** regarding the stop-operation indicators (predetermined temperatures or time-intervals), the examiner respectfully disagrees. The appellant cites FIG. 10 as teaching an embodiment wherein the start/stop of the pump is controlled based on current levels. The examiner agrees that this is different than controlling the operation of the motor based on temperature or time, however Sakagami teaches alternate control methods that do require a predetermined time period. FIG. 26, C. 12 Lines 1-10 and C. 10 Lines 1-13 describe in more detail such an embodiment. The pump is started at S92; the pump is run for a predetermined time interval at S93; after the time interval of S93 has elapsed and contaminate is still present the pump is stopped (ceased) at S95; after cessation of the pump at S95 the pump is heated to a predetermined temperature requiring monitoring by a sensor (C. 11 Lines 20-22) at S96; when the predetermined temperature is reached, the pump is started again and the process is repeated.



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From the above rejections and arguments it is clear that Sakagami discloses a method of pump control that involves cycling between pump-cessation, monitoring of pump temperature and pump operation/purging within a predetermined time interval.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Christopher Bobish/

Examiner, Art Unit 3746

Conferees:

/Devon C Kramer/

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